ORDER NO. AD8904098C8

Service Manual

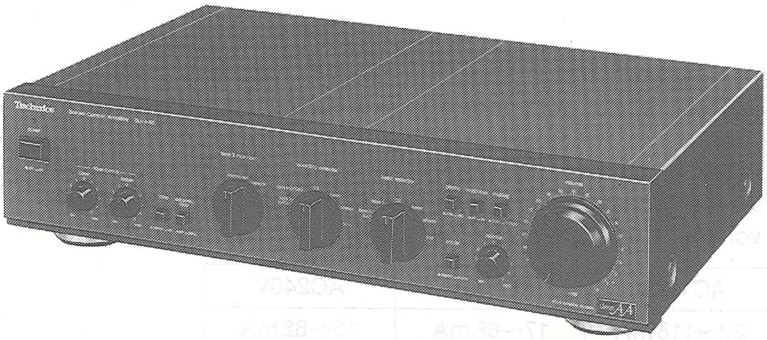
Amplifier

SU-A40

Stereo Control Amplifier

Color

(K)...Black Type



Area

Country Code	Area	Color
(E)	Continental Europe.	(K)
(EB)	Great Britain.	(K)
(EG)	F.R. Germany and Italy.	(K)
(GC)	Third Region.	(K)
(GL)	Australia.	(K)

SPECIFICATIONS (DIN 45 500)

■ PRE AMP. SECTION

Input sensitivity and impedance	
PHONO MM	2.5 mV/47 kΩ
PHONO MC	170 µV/220 Ω
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT, TAPE 3/EXT	150 mV/18 kΩ
PHONO maximum input voltage (IHF '66, 1 kHz, RMS)	
MM	170 mV
MC	13 mV
S/N	
PHONO MM	79 dB (88 dB, IHF, A)
PHONO MC	70 dB (72 dB, 250 µV, IHF, A)
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT, TAPE 3/EXT	92 dB (IHF, A: 106 dB)
Frequency response	
PHONO MM	RIAA standard curve ±0.2 dB (20 Hz~20 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT, TAPE 3/EXT	0.8 Hz~150 kHz (−3 dB) +0, −0.1 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB, −10 dB
TREBLE	20 kHz, +10 dB, −10 dB
Subsonic filter	20 Hz, −6 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Muting	−20 dB
Output voltage and impedance	
PRE OUT	rated 1 V max. 8 V
TAPE 1, TAPE 2/DAT, TAPE 3/EXT REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	55 dB
Total harmonic distortion (20 Hz~20 kHz)	
PHONO MM	0.002 %
PHONO MC	0.003 %
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT, TAPE 3/EXT (Vol. max.)	0.002 %

■ GENERAL

Power consumption	8 W
Power supply	
For Continental Europe and F.R. Germany	AC 50 Hz/60 Hz, 220 V
For Great Britain, Australia and others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W × H × D)	430 × 103 × 290 mm (16-15/16" × 4-1/16" × 11-6/16")
Weight	4.0 kg (8.8 lb.)

Notes:

1. Specifications are subject to change without notice for further improvement.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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BEFORE REPAIR

(1) Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors (C501, C502, 3300μF) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current 50Hz	33~132mA	29~118mA	17~66mA	16~62mA
Consumed current 60Hz	30~120mA	27~110mA	15~60mA	14~56mA

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:
∗No sound is heard when the power is switched ON.
∗Sound stops during a performance.
The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:

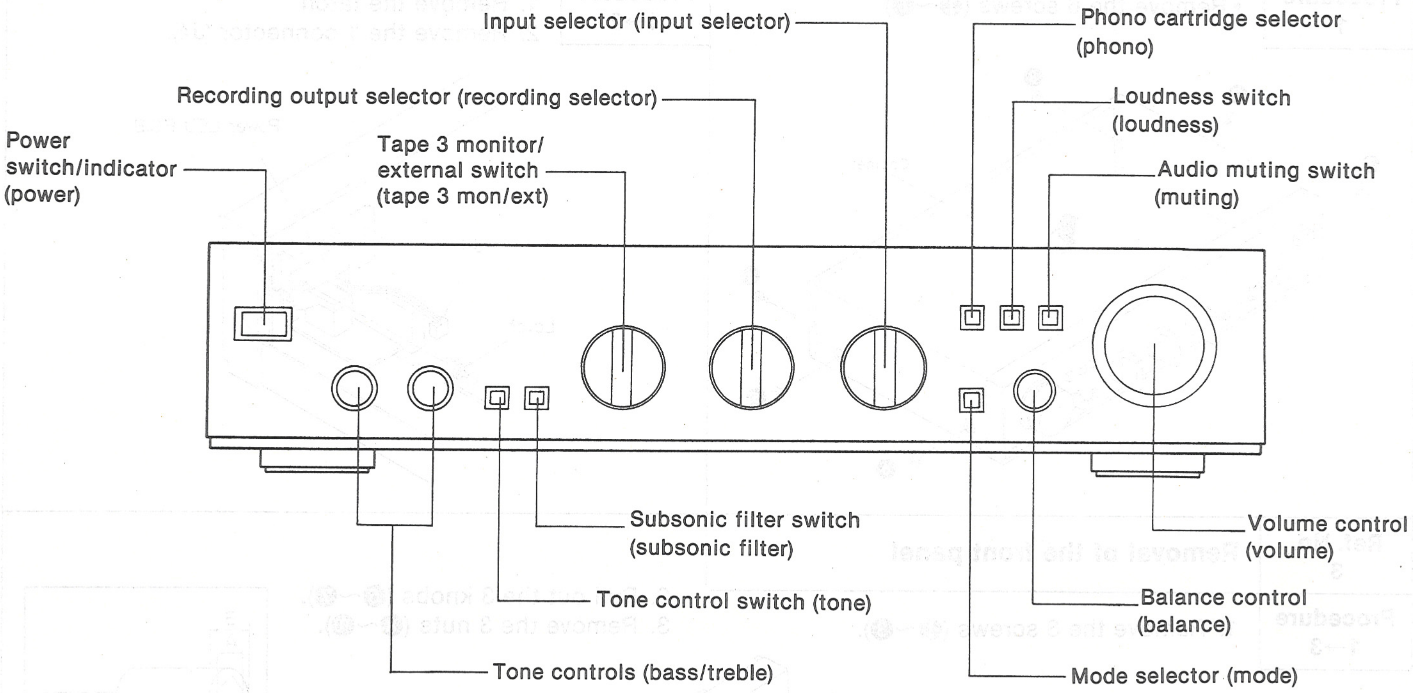
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

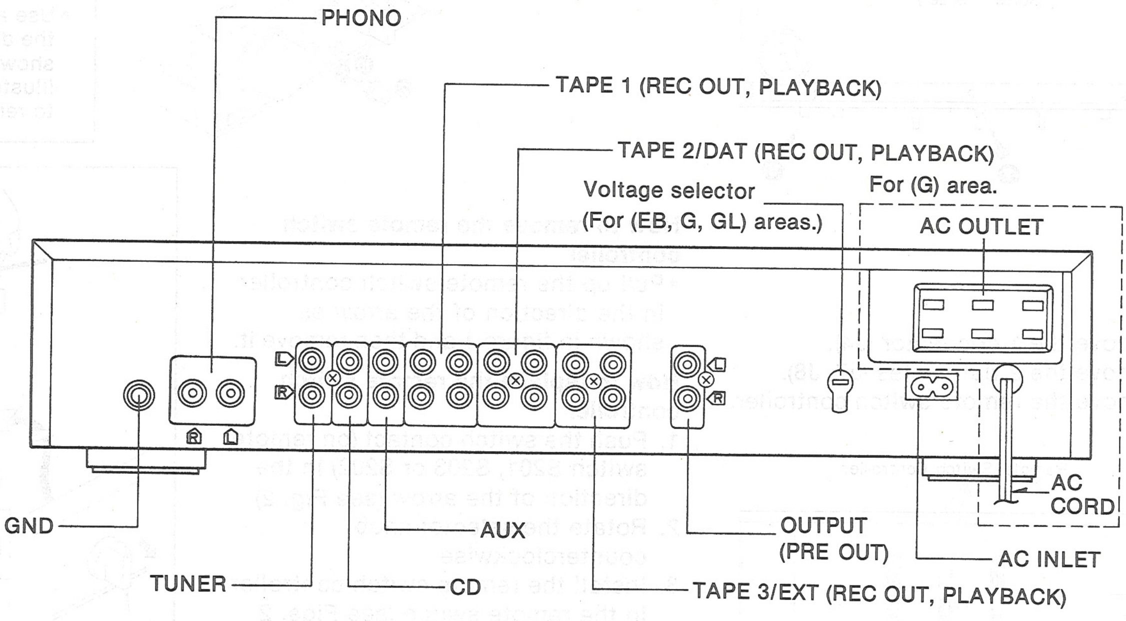
Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

ACCESSORIES

- Stereo connection cable 1
  (SJPD18)
- AC power supply cord 1
  SJA193 ....(EB)
  SJA173 ....(GL)
  SFDAC05E03 .... (E), (EG)

LOCATION OF CONTROLS

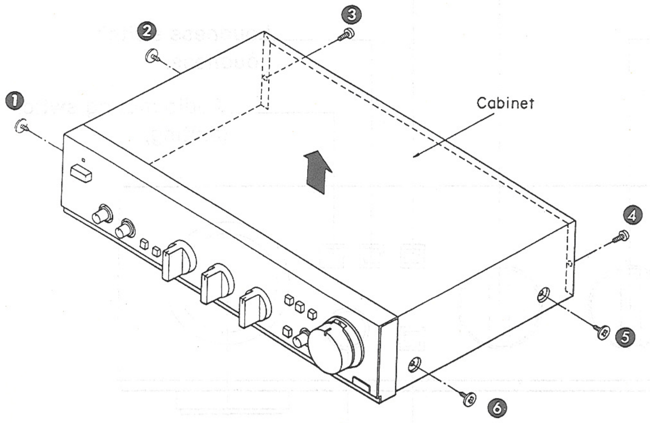

Input selector (input selector)
Phono cartridge selector (phono)
Recording output selector (recording selector)
Loudness switch (loudness)
Power switch/indicator (power)
Tape 3 monitor/ external switch (tape 3 mon/ext)
Audio muting switch (muting)
Subsonic filter switch (subsonic filter)
Volume control (volume)
Tone control switch (tone)
Balance control (balance)
Tone controls (bass/treble)
Mode selector (mode)


PHONO
TAPE 1 (REC OUT, PLAYBACK)
TAPE 2/DAT (REC OUT, PLAYBACK)
Voltage selector (For (EB, G, GL) areas.)
For (G) area.
AC OUTLET
L
R
R
L
AC CORD
GND
AUX
OUTPUT (PRE OUT)
AC INLET
TUNER
CD
TAPE 3/EXT (REC OUT, PLAYBACK)

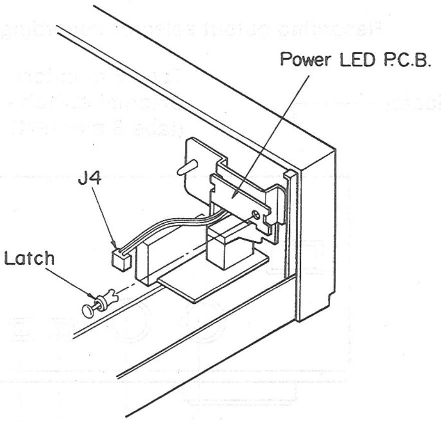
Note: Phono input capacitance is about 250 pF (EG area only)
Phono input capacitance is about 150 pF (Other area)

DISASSEMBLY INSTRUCTIONS

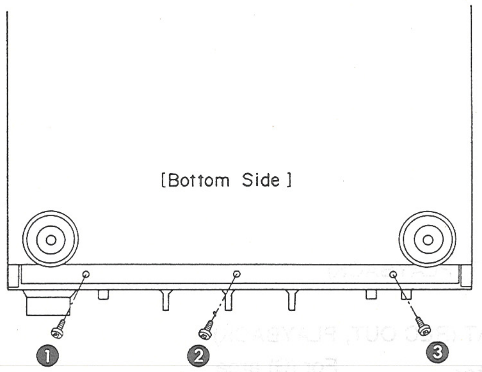
Ref. No. 1	Removal of the cabinet
Procedure 1	• Remove the 6 screws (❶~❻).


❶
❷
❸
Cabinet
❹
❺
❻

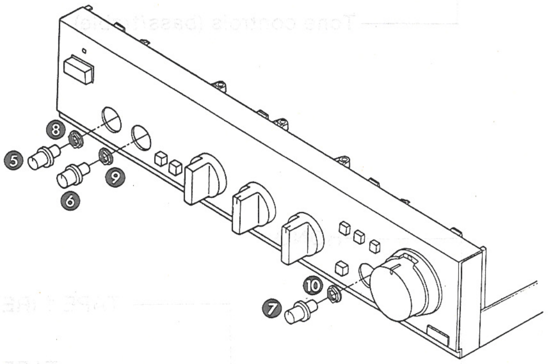
Ref. No. 2	Removal of the power LED P.C.B.
Procedure 1→2	1. Remove the latch. 2. Remove the 1 connector (J4).

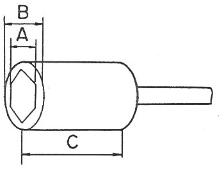

Power LED P.C.B.
J4
Latch

Ref. No. 3	Removal of the front panel
Procedure 1→3	1. Remove the 3 screws (❶~❸).


[Bottom Side]
❶
❷
❸

2. Pull out the 3 knobs (❺~❼).
3. Remove the 3 nuts (❽~❿).

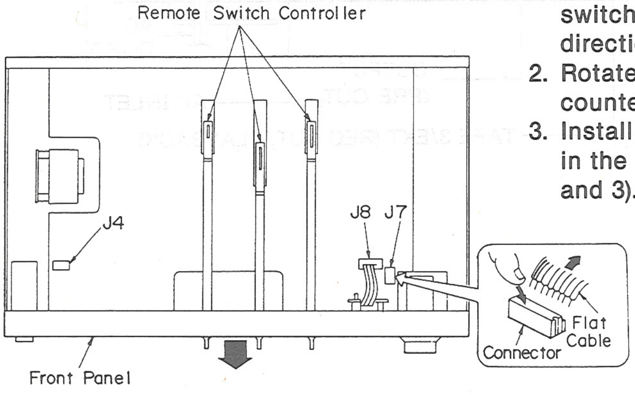




A: 11mm
B: 16mm
C: longer than 18mm

- Use a wrench of the dimensions shown in the illustration above to remove nuts.

4. Remove the 1 connector (J4).
5. Remove the 2 flat cables (J7, J8).
6. Remove the remote switch controller.


Remote Switch Controller
J4
J8 J7
Flat Cable
Connector
Front Panel

How to remove the remote switch controller

- Pull up the remote switch controller in the direction of the arrow as shown in figure 1 and then remove it.

How to replace the remote switch controller

1. Push the switch contact (on remote switch S201, S203 or S202) in the direction of the arrow (see Fig. 2).
2. Rotate the selector knob counterclockwise.
3. Install the remote switch controller in the remote switch (see Figs. 2 and 3).

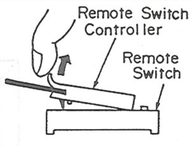

Remote Switch Controller
Remote Switch

Fig.1

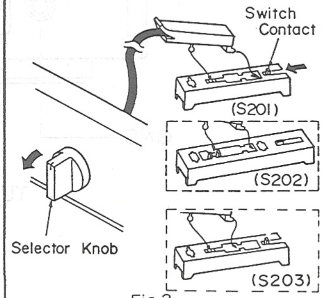

Switch Contact
(S201)
(S202)
Selector Knob
(S203)

Fig.2

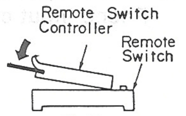

Remote Switch Controller
Remote Switch

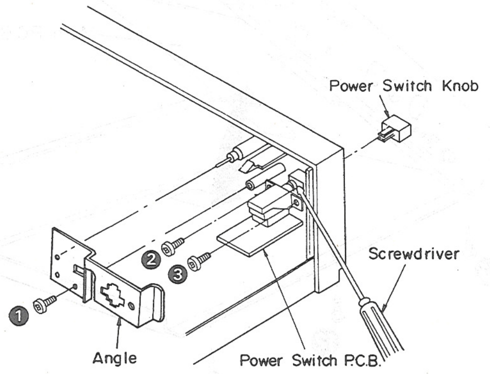
Fig.3

Ref. No. 4

Removal of the power switch P.C.B.

Procedure 1→2→4

1. Remove the 1 screw (❶).
2. Remove the angle.
3. Remove the power switch knob by pushing it from behind the front panel.
4. Remove the 2 screws (❷, ❸).

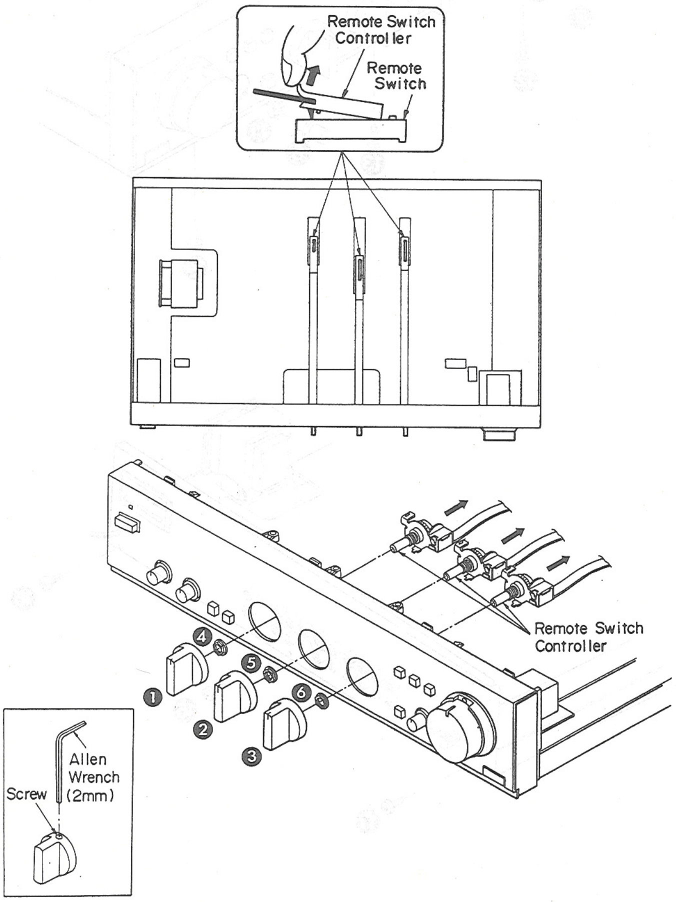

Power Switch Knob
Screwdriver
❷
❸
❶
Angle
Power Switch P.C.B.

Ref. No. 6

Removal of the remote switch controller

Procedure 1→6

1. Remove the remote switch controller.
2. Loosen the screws set in the selector dials by using a allen wrench and remove the 3 selector dials (❶~❸).
3. Remove the 3 nuts (❹~❻).
4. Remove the remote switch controller in the direction of the arrow.


Remote Switch Controller
Remote Switch
❹
❺
❻
❶
❷
❸
Remote Switch Controller
Allen Wrench (2mm)
Screw

Ref. No. 5

Removal of the volume P.C.B. and loudness/muting switch P.C.B.

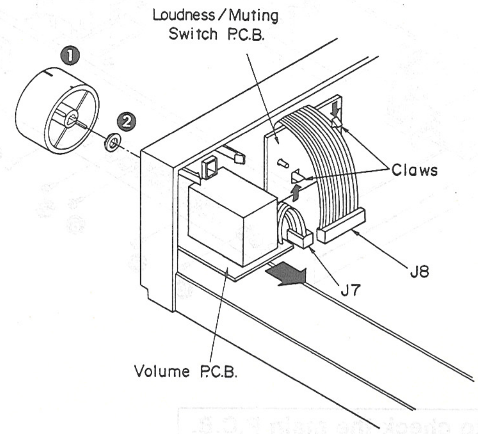
Procedure 1→5

- Removal of the volume P.C.B.

1. Remove the 1 flat cable (J7).
2. Pull out the knob (❶).
3. Remove the nut (❷).

- Removal of the loudness/muting switch P.C.B.

1. Remove the 1 flat cable (J8).
2. Release the 2 claws.

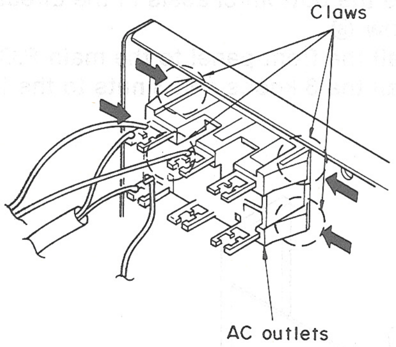

Loudness/Muting Switch P.C.B.
❶
❷
Claws
J8
J7
Volume P.C.B.

Ref. No. 7

Removal of the AC outlets

Procedure 1→7

- Push the 4 claws.

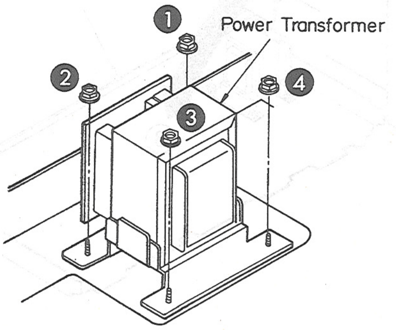

Claws
AC outlets

Ref. No. 8

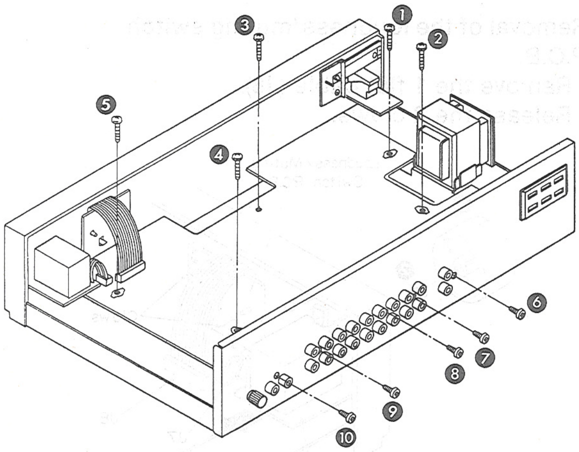
Removal of the power transformer

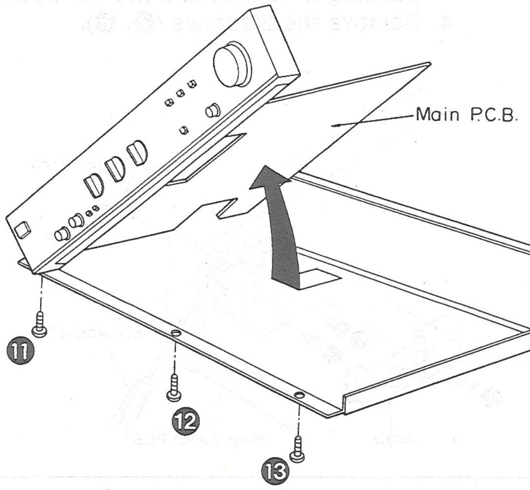
Procedure 1→8

- Remove the 4 nuts (❶~❹).


❶
Power Transformer
❷
❹
❸

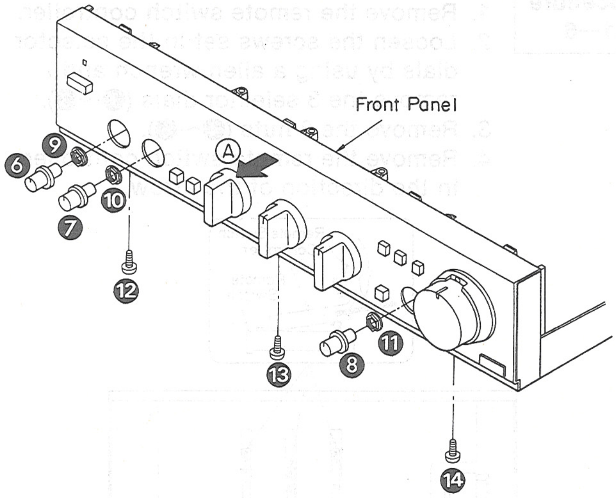
Ref. No. 9	**Removal of the main P.C.B.**
Procedure **1→9**	1. Remove the 13 screws (❶~⓭). 2. Remove the main P.C.B. in the direction of the arrow.

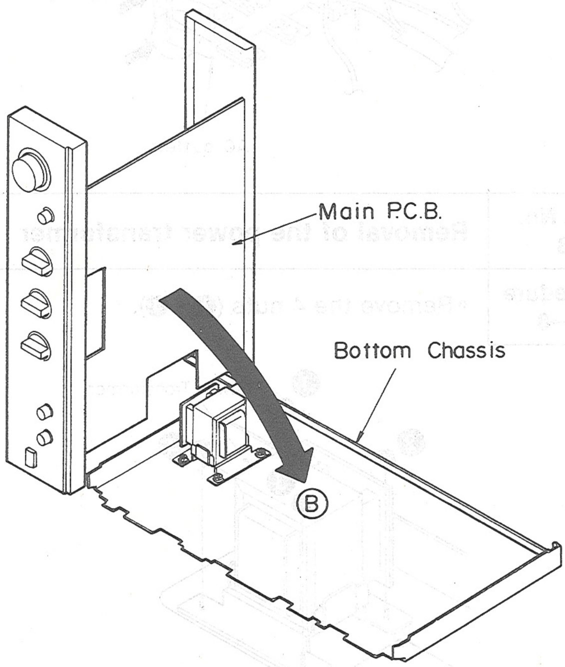

❶
❷
❸
❹
❺
❻
❼
❽
❾
❿

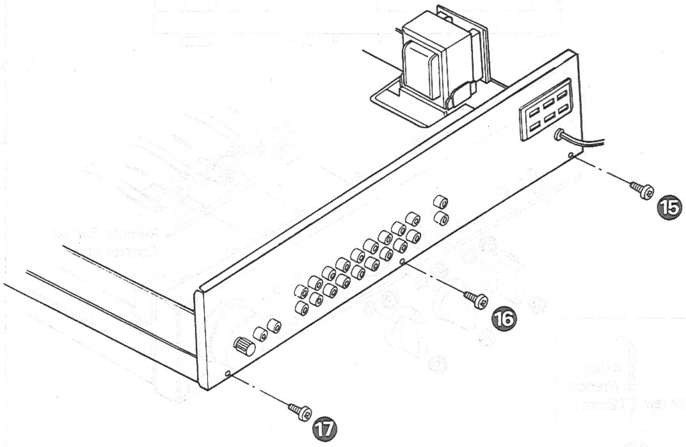

Main P.C.B.
⓫
⓬
⓭

How to check the main P.C.B.

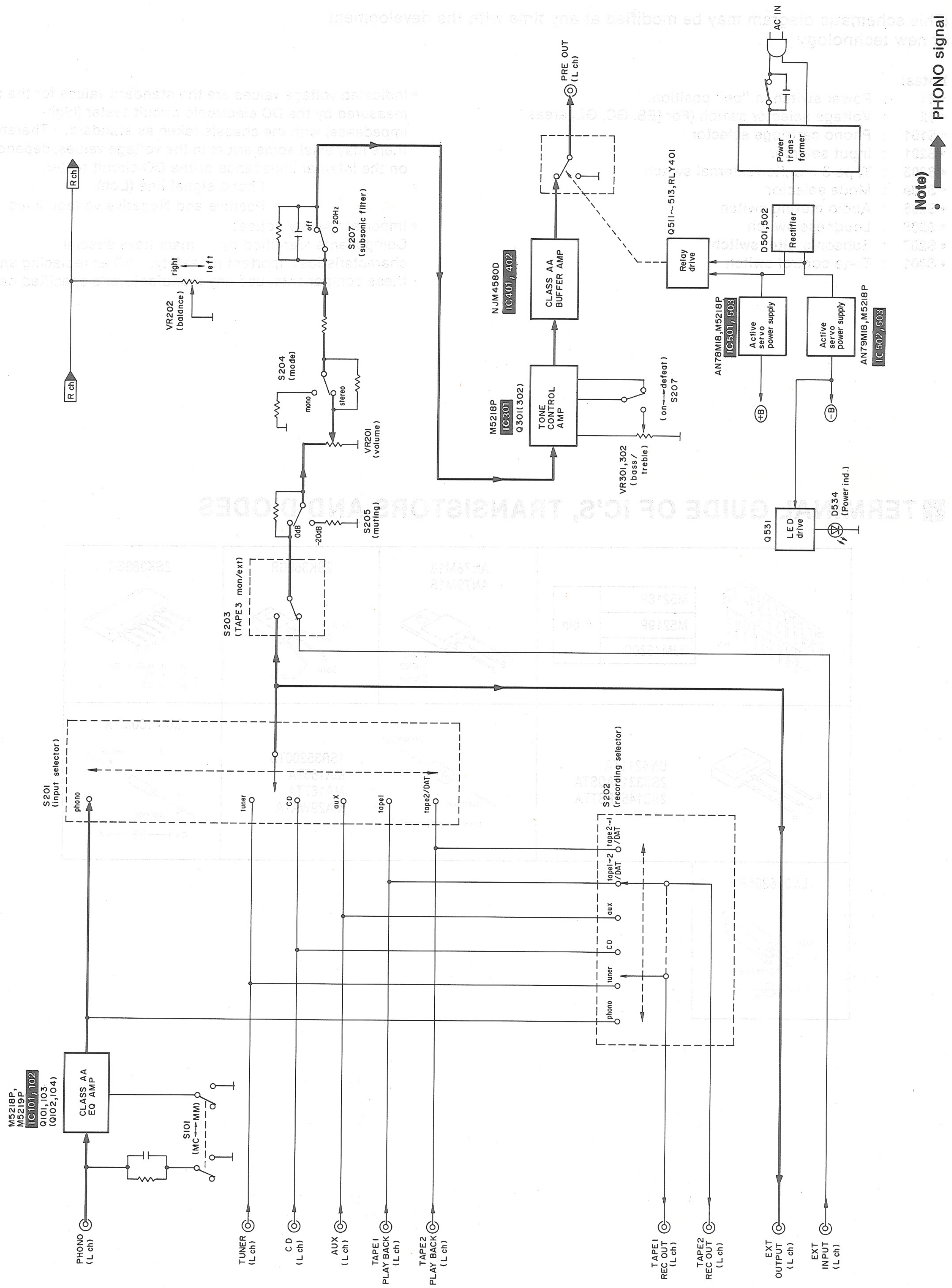
1. Remove the 5 screws (❶~❺) in above figure.
2. Remove the 3 knobs (❻~❽) and 3 nuts (❾~⓫).
3. Remove the 6 screws (⓬~⓱).
4. Pull out the front panel in the direction of the arrow Ⓐ.
5. Remove the bottom chassis in the direction of the arrow Ⓑ.
6. Reinstall the front panel to the main P.C.B.
7. Reinstall the 3 knobs and 3 nuts to the front panel.


Front Panel
Ⓐ
❻
❾
❿
❼
⓬
⓭
❽
⓫
⓮


Main P.C.B.
Bottom Chassis
Ⓑ



BLOCK DIAGRAM


Note)
• ➞ PHONO signal
PHONO (L ch)
TUNER (L ch)
CD (L ch)
AUX (L ch)
TAPE1 PLAY BACK (L ch)
TAPE2 PLAY BACK (L ch)
TAPE1 REC OUT (L ch)
TAPE2 REC OUT (L ch)
EXT OUTPUT (L ch)
EXT INPUT (L ch)
M5218P, M5219P
IC101, 102
Q101, 103
(Q102, 104)
CLASS AA EQ AMP
S101 (MC ←→ MM)
S201 (input selector)
phono
tuner
CD
aux
tape1
tape2/DAT
S202 (recording selector)
phono
tuner
CD
aux
tape1→2 /DAT
tape2→1 /DAT
S203 (TAPE3 mon/ext)
S205 (muting)
0dB
-20dB
VR201 (volume)
S204 (mode)
mono
stereo
VR202 (balance)
right
left
R ch
R ch
S207 (subsonic filter)
off
20Hz
M5218P
IC301
Q301(302)
TONE CONTROL AMP
VR301, 302 (bass / treble)
(on ←→ defeat) S207
NJM4580D
IC401, 402
CLASS AA BUFFER AMP
PRE OUT (L ch)
Q511 ~ 513, RLY401
Relay drive
AN78M18, M5218P
IC501, 503
Active servo power supply
AN79M18, M5218P
IC 502, 503
Active servo power supply
+B
−B
D501, 502
Rectifier
Power trans-former
AC IN
Q531
LED drive
D534 (Power ind.)

SCHEMATIC DIAGRAM (Parts list on pages 19～22.)

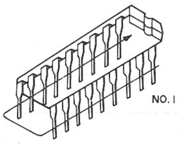
(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **S1** : Power switch in "on" position.
- **S2** : Voltage selector switch (For [EB, GC, GL] areas.)
- **S101** : Phono cartridge selector
- **S201** : Input selector
- **S203** : Tape 3 monitor/external switch
- **S204** : Mode selector
- **S205** : Audio muting switch
- **S206** : Loudness switch
- **S207** : Subsonic filter switch
- **S301** : Tone control switch

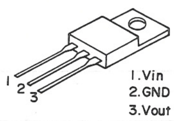
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- ⇨ Phono signal line (Lch)
  —< >—/--< >-- Positive and Negative voltage lines
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use ony manufacturer's specified parts.

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

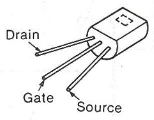


M5218P	8 pin
M5219P	
NJM4580D	

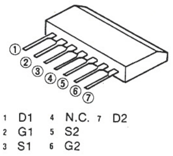
AN78M18
AN79M18

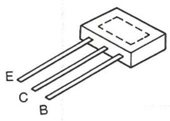

1
2
3
1.Vin
2.GND
3.Vout

2SK369GR

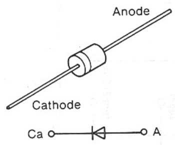

Drain
Gate
Source

2SK389BG


①
②
③
④
⑤
⑥
⑦
1 D1
2 G1
3 S1
4 N.C.
5 S2
6 G2
7 D2

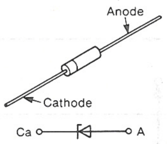


UN4211TA
2SC3311AQSTA
2SD1450RSTTA

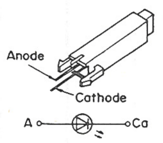

Anode
Cathode
Ca
A

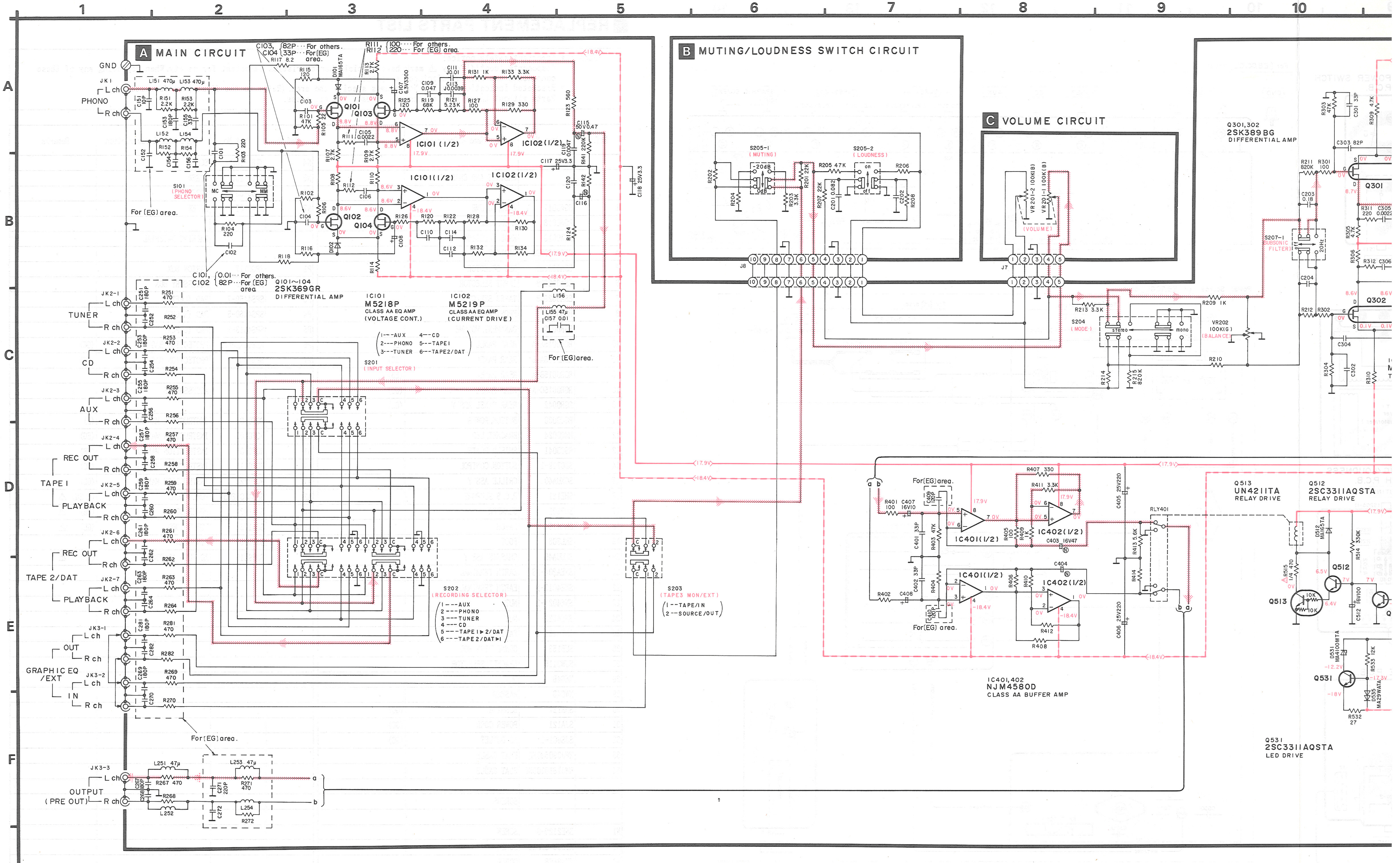
1SR35200TB
MA165TA
MA167TA
MA29WATA

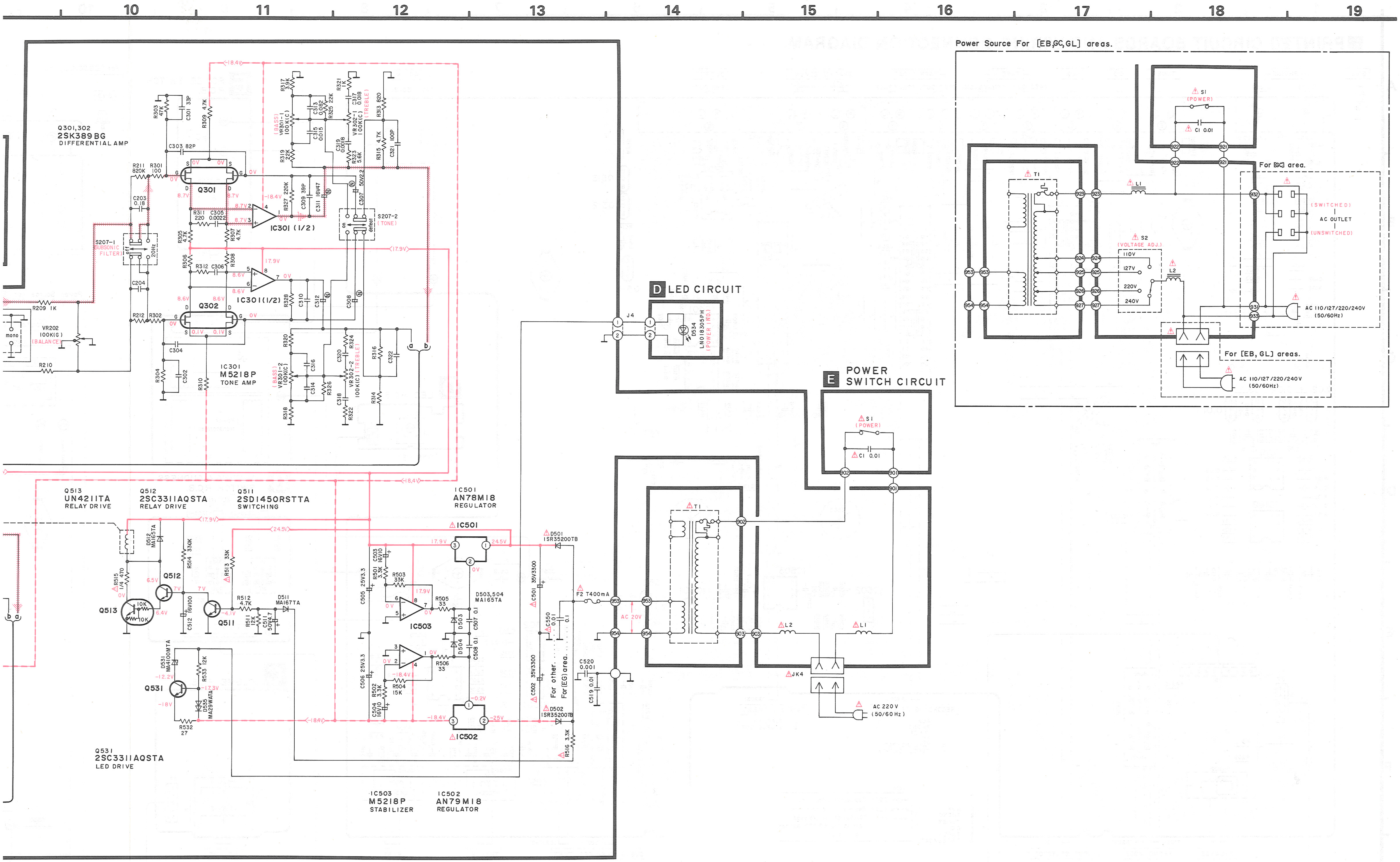
MA4100MTA


Anode
Cathode
Ca
A

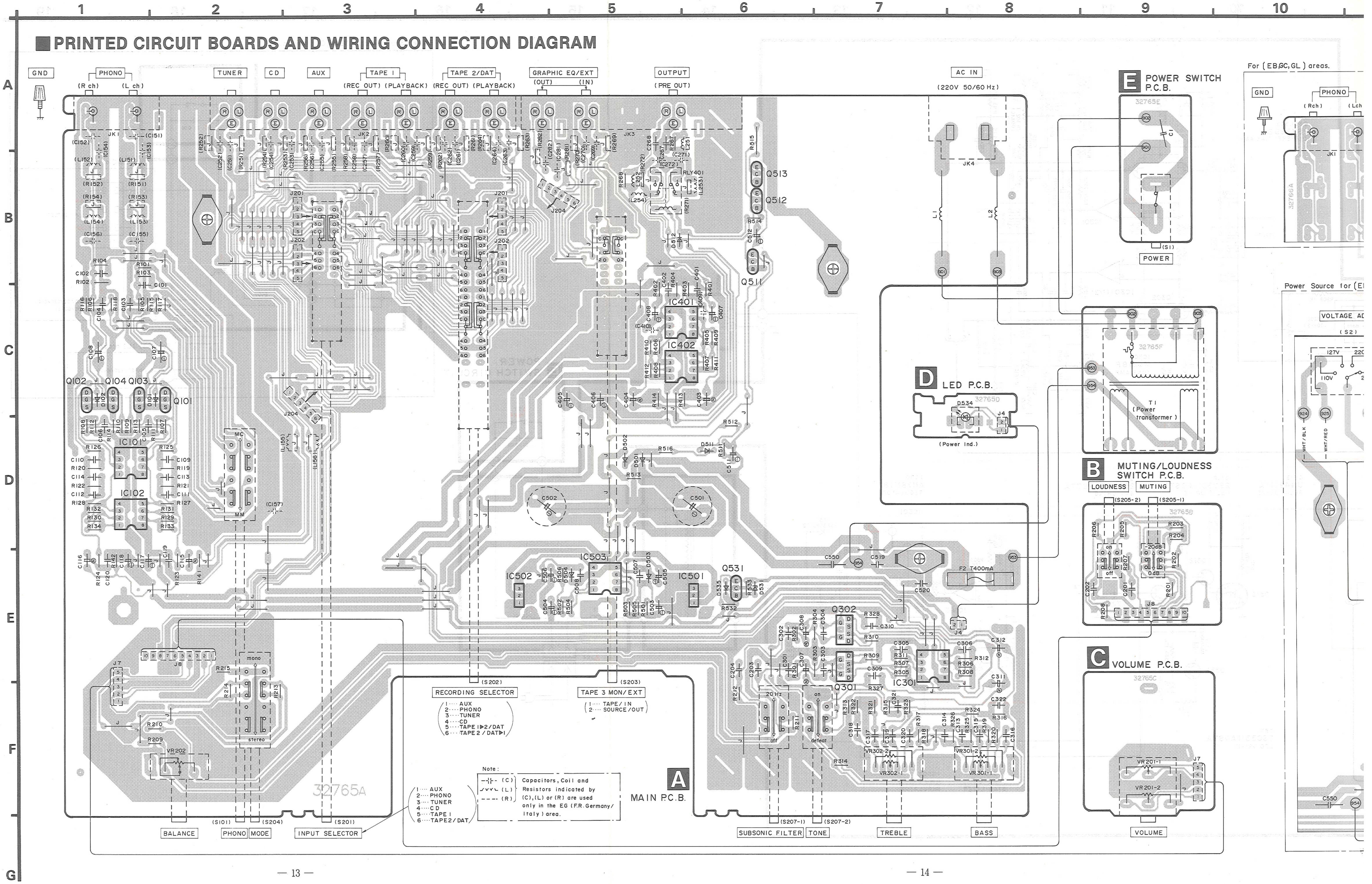
LN018305PH


Anode
Cathode
A
Ca


A MAIN CIRCUIT
B MUTING/LOUDNESS SWITCH CIRCUIT
C VOLUME CIRCUIT
GND
JK1
PHONO
L ch
R ch
S101 (PHONO SELECTOR)
MC
MM
For (EG) area.
C103, C104 82P···For others. 33P···For (EG) area.
R111, R112 100···For others. 220···For (EG) area.
C101, C102 0.01···For others. 82P···For (EG) area
Q101~104 2SK369GR DIFFERENTIAL AMP
IC101 M5218P CLASS AA EQ AMP (VOLTAGE CONT.)
IC102 M5219P CLASS AA EQ AMP (CURRENT DRIVE)
IC101(1/2)
IC102(1/2)
Q101
Q103
Q102
Q104
1---AUX
2---PHONO
3---TUNER
4---CD
5---TAPE1
6---TAPE2/DAT
S201 (INPUT SELECTOR)
JK2-1
TUNER
JK2-2
CD
JK2-3
AUX
JK2-4
REC OUT
TAPE 1
JK2-5
PLAYBACK
JK2-6
REC OUT
TAPE 2/DAT
JK2-7
PLAYBACK
JK3-1
OUT
GRAPHIC EQ /EXT
JK3-2
IN
JK3-3
OUTPUT (PRE OUT)
S202 (RECORDING SELECTOR)
1---AUX
2---PHONO
3---TUNER
4---CD
5---TAPE1 ▶ 2/DAT
6---TAPE2/DAT ▶ 1
S203 (TAPE3 MON/EXT)
1---TAPE/IN
2---SOURCE/OUT
For (EG) area.
L155 47μ
C157 0.01
L156
S205-1 (MUTING)
S205-2 (LOUDNESS)
-20dB
0dB
on
off
R205 47K
R207 22K
C201 0.082
J8
J7
VR201-2 100K(B)
VR201-1 100K(B)
(VOLUME)
S204 (MODE)
stereo
mono
VR202 100K(G) (BALANCE)
R213 3.3K
R209 1K
R215 820K
Q301,302 2SK389BG DIFFERENTIAL AMP
Q301
Q302
S207-1 (SUBSONIC FILTER)
off
20Hz
IC401(1/2)
IC402(1/2)
IC401,402 NJM4580D CLASS AA BUFFER AMP
For (EG) area.
R407 330
R411 3.3K
RLY401
Q513 UN4211TA RELAY DRIVE
Q512 2SC3311AQSTA RELAY DRIVE
D512 MA165TA
Q531 2SC3311AQSTA LED DRIVE
D531 MA4100MTA
D535 MA4291WATA
(17.9V)
(18.4V)
(-17.9V)
(-18.4V)
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G

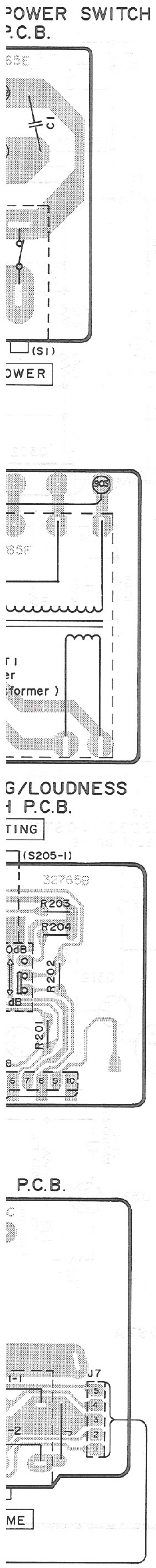

10
11
12
13
14
15
16
17
18
19
Q301,302
2SK389BG
DIFFERENTIAL AMP
Q301
Q302
IC301 (1/2)
IC301 (1/2)
IC301
M5218P
TONE AMP
S207-1
(SUBSONIC FILTER)
S207-2
(TONE)
VR202
100K(G)
(BALANCE)
VR301-1
100K(C)
(BASS)
VR302-1
100K(C)
(TREBLE)
VR301-2
100K(C)
(BASS)
VR302-2
100K(C)
(TREBLE)
Q513
UN4211TA
RELAY DRIVE
Q512
2SC3311AQSTA
RELAY DRIVE
Q511
2SD1450RSTTA
SWITCHING
IC501
AN78M18
REGULATOR
IC503
M5218P
STABILIZER
IC502
AN79M18
REGULATOR
Q531
2SC3311AQSTA
LED DRIVE
D501
1SR35200TB
D502
1SR35200TB
F2 T400mA
AC 20V
For other.
For (EG) area.
D LED CIRCUIT
J4
D534
LN01830SPH
(POWER IND.)
E POWER SWITCH CIRCUIT
S1
(POWER)
C1 0.01
T1
L1
L2
JK4
AC 220V
(50/60Hz)
Power Source For [EB,GC,GL] areas.
S2
(VOLTAGE ADJ.)
110V
127V
220V
240V
For [GC] area.
(SWITCHED)
AC OUTLET
(UNSWITCHED)
AC 110/127/220/240V
(50/60Hz)
For [EB, GL] areas.
AC 110/127/220/240V
(50/60Hz)

PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

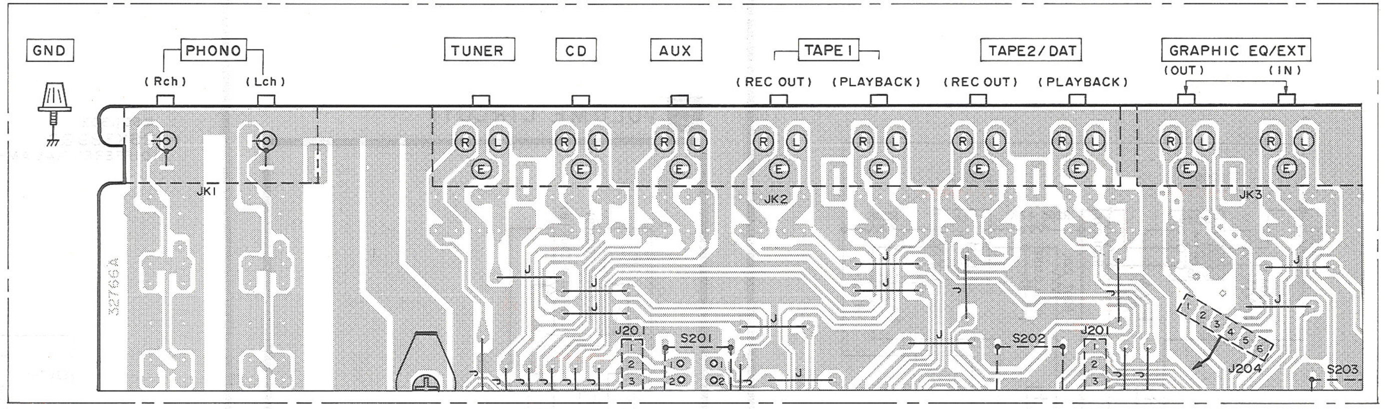

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
GND
PHONO
(R ch)
(L ch)
TUNER
CD
AUX
TAPE 1
(REC OUT)
(PLAYBACK)
TAPE 2/DAT
(REC OUT)
(PLAYBACK)
GRAPHIC EQ/EXT
(OUT)
(IN)
OUTPUT
(PRE OUT)
AC IN
(220V 50/60 Hz)
JK1
JK2
JK3
JK4
L1
L2
RLY401
Q511
Q512
Q513
Q101
Q102
Q103
Q104
IC101
IC102
IC401
IC402
IC501
IC502
IC503
IC301
Q301
Q302
Q531
MC
MM
J201
J202
J204
C501
C502
F2 T400mA
mono
stereo
VR202
20 Hz
off
on
defeat
VR302-1
VR302-2
VR301-1
VR301-2
32765A
(S202)
RECORDING SELECTOR
1 ···· AUX
2 ···· PHONO
3 ···· TUNER
4 ···· CD
5 ···· TAPE 1▶2/DAT
6 ···· TAPE 2/DAT▶1
(S203)
TAPE 3 MON/EXT
1 ···· TAPE/IN
2 ···· SOURCE/OUT
(S101)
(S204)
(S201)
BALANCE
PHONO
MODE
INPUT SELECTOR
1 ···· AUX
2 ···· PHONO
3 ···· TUNER
4 ···· CD
5 ···· TAPE 1
6 ···· TAPE2/DAT
(S207-1)
(S207-2)
SUBSONIC FILTER
TONE
TREBLE
BASS
A
MAIN P.C.B.
D
LED P.C.B.
32765D
D534
J4
(Power Ind.)
E
POWER SWITCH P.C.B.
32765E
C1
(S1)
POWER
32765F
T1
(Power transformer)
B
MUTING/LOUDNESS SWITCH P.C.B.
LOUDNESS
MUTING
(S205-2)
(S205-1)
32765B
-20dB
0dB
J8
C
VOLUME P.C.B.
32765C
VR201-1
VR201-2
J7
VOLUME
For (EB,GC,GL) areas.
GND
PHONO
(Rch)
(Lch
JK1
32766A
Power Source for (EB
VOLTAGE AD
(S2)
127V
110V
220
WHT/BLK
WHT/RED
C550

Note :

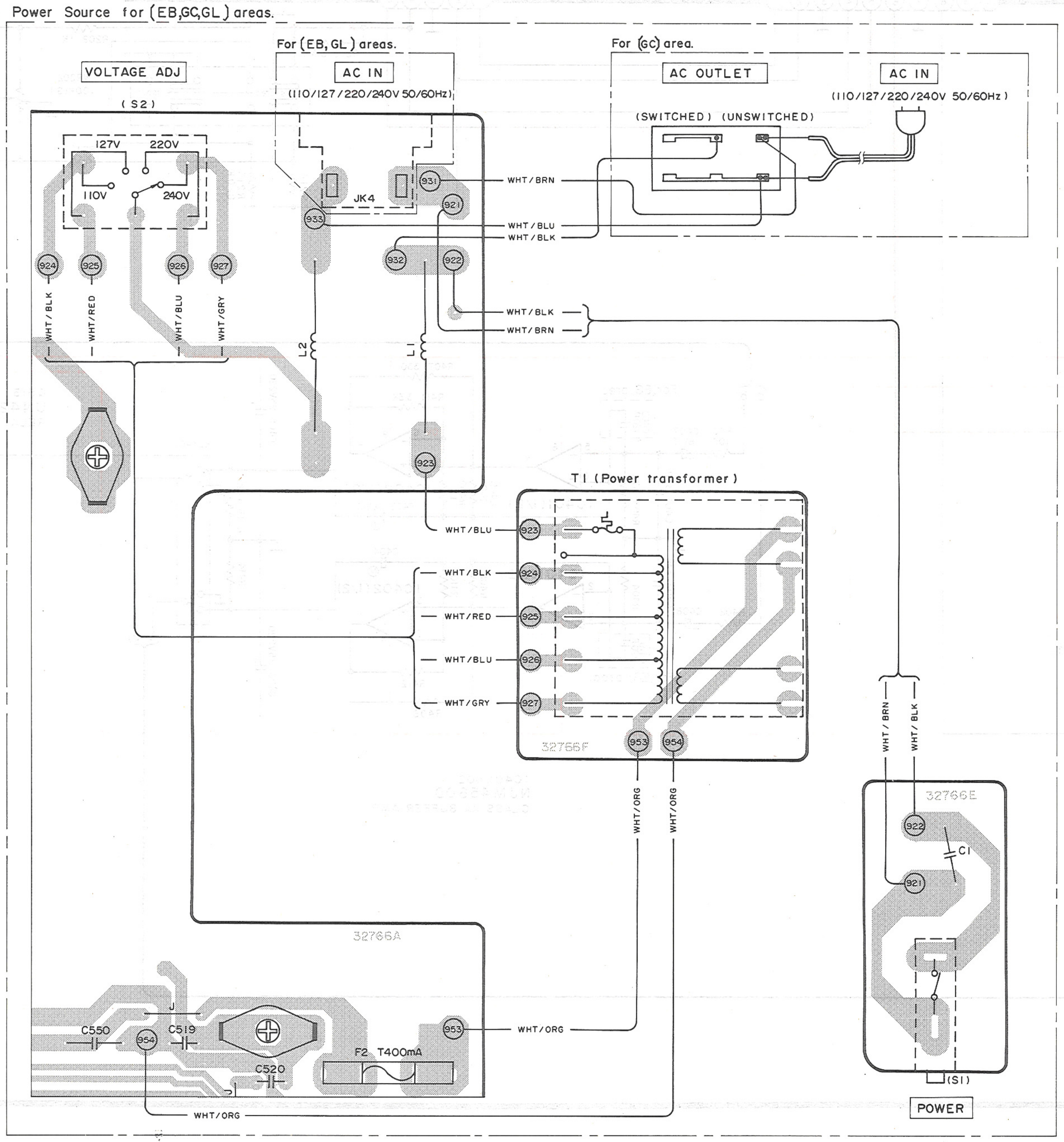
—‖— (C) ⌇⌇⌇ (L) - - - - (R)	Capacitors, Coil and Resistors indicated by (C), (L) or (R) are used only in the EG (F.R. Germany/Italy) area.


POWER SWITCH
P.C.B.
(S1)
POWER
T1
(Power Transformer)
G/LOUDNESS
H P.C.B.
(S205-1)
32765B
R203
R204
R202
R201
P.C.B.
J7

For (EB,GC,GL) areas.


GND
PHONO
(Rch)
(Lch)
TUNER
CD
AUX
TAPE 1
(REC OUT)
(PLAYBACK)
TAPE2/DAT
(REC OUT)
(PLAYBACK)
GRAPHIC EQ/EXT
(OUT)
(IN)
JK1
JK2
JK3
R L E
32766A
J201
S201
S202
S203
J204

Power Source for (EB,GC,GL) areas.


VOLTAGE ADJ
(S2)
127V
220V
110V
240V
For (EB, GL) areas.
AC IN
(110/127/220/240V 50/60Hz)
JK4
For (GC) area.
AC OUTLET
(SWITCHED) (UNSWITCHED)
AC IN
(110/127/220/240V 50/60Hz)
WHT/BRN
WHT/BLU
WHT/BLK
WHT/RED
WHT/GRY
WHT/ORG
L1
L2
T1 (Power transformer)
32766F
32766E
32766A
C1
C550
C519
C520
F2 T400mA
(S1)
POWER

REPLACEMENT PARTS LIST

Notes : * Important safety notice:
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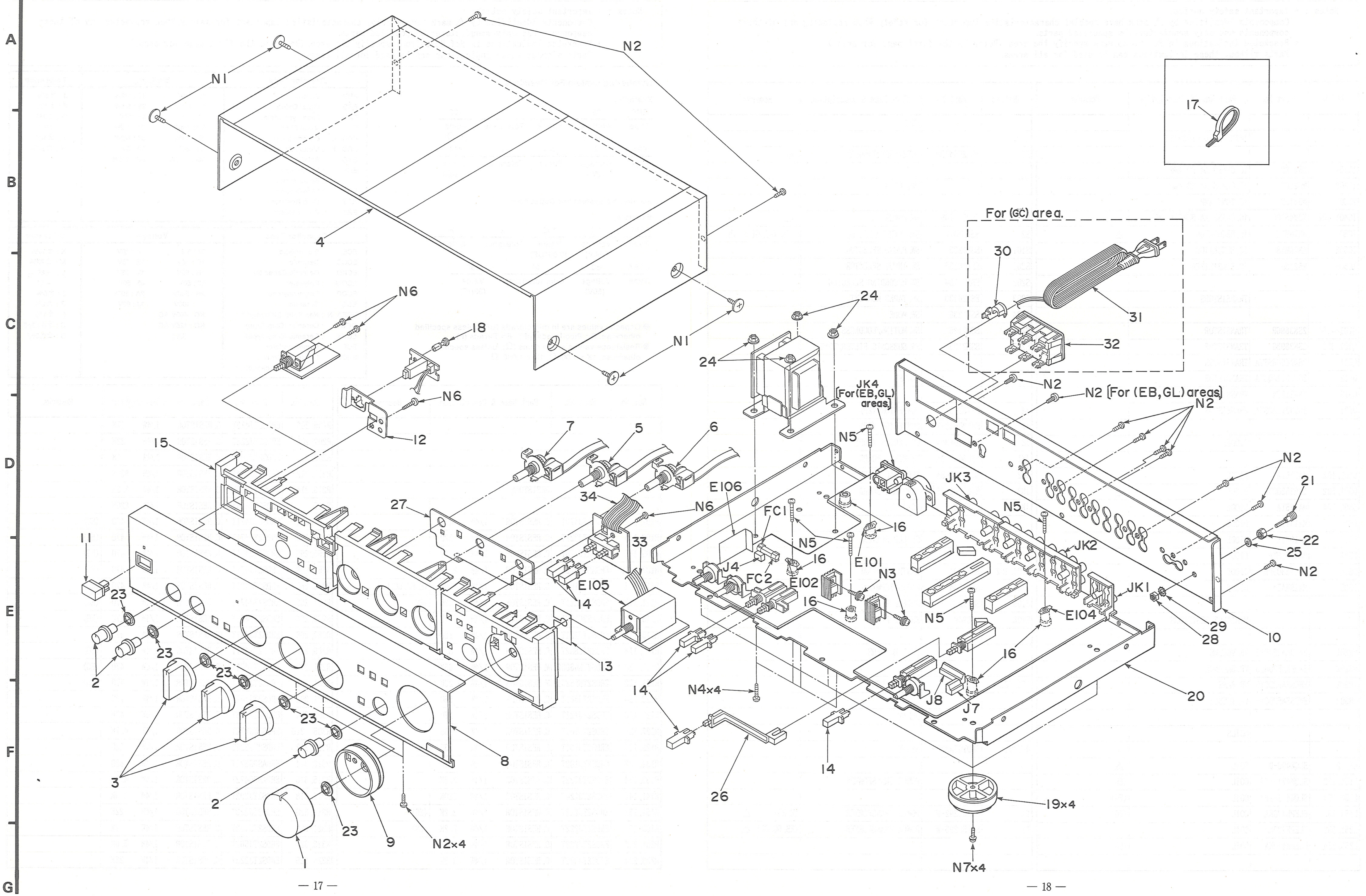
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RGW0017	KNOB, VOLUME	
2	RGW0018	KNOB, TONE	
3	RGW0019	KNOB, SELECTOR	
4	SKC2190K99	CABINET	
5	ESA33292B	REC SELECTOR	
6	ESA33293B	INPUT SELECTOR	
7	ESA33294B	TAPE3 SELECTOR	
8	RGG0022	FRONT PANEL ASS'Y	
9	RGK0079	ORNAMENT, VOLUME	
10	RGR0015A-A	REAR PANEL	(E)
10	RGR0015A-B	REAR PANEL	(EG)
10	RGR0015B-A	REAR PANEL	(EB)
10	RGR0015C-A	REAR PANEL	(GC)
10	RGR0042	REAR PANEL ASS'Y	(GL)
11	RGU0030	BUTTON, POWER	
12	RMQ0024	BRACKET, LED	
13	RSC0041	SHIELD PLATE	
14	SBC719-1	BUTTON, CONTROL	
15	SGXUA40	GRILLE ASS'Y	
16	SHE181	P. C. B SUPPORT	
17	SHR301	CLAMPER	
18	SHR415	LATCH	
19	SKL306	FOOT	
20	SKUUA40	CHASSIS ASS'Y	
21	SNEA204-1S	EARTH TERMINAL	
22	SNE4017-1	EARTH TERMINAL	
23	SNE4021-1	NUT	
24	SNE452S	NUT	
25	SNTA421-1	EARTH TERMINAL	
26	SUB153	CONNECTION ROD	
27	SUW3115	BRACKET, SELECTOR	
28	XNG4B	NUT	
29	XWC4B	WASHER	
30	SHR127	BUSHING	(GC)
31	SJA121	POWER CORD	(GC)
32	SJS601-3	AC OUTLET	(GC)
33	RWJ390580KQ	FLAT CABLE	
34	RWJ1810100KQ	FLAT CABLE	
		SCREWS	
N1	SNE2129-3	SCREW	
N2	XTBS3+8JFZ1	SCREW	
N3	XYN3+F8	SCREW	

Ref. No.	Part No.	Part Name & Description	Remarks
N4	XTB3+10F	SCREW	
N5	XTB3+20J	SCREW	
N6	XTB3+8G	SCREW	
N7	XTW3+8T	SCREW	
		PACKING MATERIAL	
P1	RPG0117	CARTON BOX	
P2	RPQ0049	ACCESSORY BOX	
P3	SPS4459-7	PAD (LEFT)	
P4	SPS4460-5	PAD (RIGHT)	
P5	SPS4613-1	PAD (UPPER)	
P6	XZB10X20A02	PROTECTION BAG	(GC)
P7	SPB1065	PROTECTION BAG	(GC)
		ACCESSORIES	
A1	RQF0102	INSTRUCTION MANUAL	(E)
A1	RQF0103	INSTRUCTION MANUAL	(EG)
A1	RQF0105	INSTRUCTION MANUAL	(EB)
A1	RQF0118	INSTRUCTION MANUAL	(GC)
A1	RQF0228	INSTRUCTION MANUAL	(GL)
A2	SFDAC05E03	POWER CORD	(E, EG) ⚠
A2	SJA193	POWER CORD	(EB) ⚠
A2	SJA173	POWER CORD	(GL) ⚠
A3	SJPD18	PIN CORD	
A4	SJP9215	AC PLUG ADAPTOR	(GC) ⚠

EXPLODED VIEW


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
N1
N2
4
N6
18
N6
12
15
7
5
6
34
N6
27
11
23
2
23
23
3
23
2
23
1
9
N2×4
8
13
33
14
E105
14
14
26
14
N4×4
E106
FC1
J4
FC2
E102
16
N5
N5
E101
16
N3
16
N5
24
24
24
JK4 (For (EB, GL) areas)
N5
JK3
N5
JK2
JK1
E104
16
J8
J7
20
19×4
N7×4
For (GC) area.
30
31
32
N2
N2 (For (EB, GL) areas)
N2
N2
21
22
25
N2
29
28
10
17

REPLACEMENT PARTS LIST

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Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC101	M5218P	IC, CLASS AA EQ AMP	
IC102	M5219P	IC, CLASS AA EQ AMP	
IC301	M5218P	IC, TONE AMP	
IC401, 402	NJM4580D	IC, CLASS AA BUFFER AMP	
IC501	AN78M18	IC, REGULATOR	⚠
IC502	AN79M18	IC, REGULATOR	⚠
IC503	M5218P	IC, STABILIZER	
		TRANSISTORS	
Q101～104	2SK369GR	TRANSISTOR	
Q301, 302	2SK389BG	TRANSISTOR	
Q511	2SD1450RSTTA	TRANSISTOR	
Q512	2SC3311AQSTA	TRANSISTOR	
Q513	UN4211TA	TRANSISTOR	
Q531	2SC3311AQSTA	TRANSISTOR	
		DIODES	
D101, 102	MA165TA	DIODE	
D501, 502	1SR35200TB	DIODE	⚠
D503, 504	MA165TA	DIODE	
D511	MA167TA	DIODE	
D512	MA165TA	DIODE	
D531	MA4100MTA	DIODE	
D534	LN018305PH	DIODE	
D535	MA29WATA	DIODE	
		VARIABLE RESISTORS	
VR201	EWF3KA024B15	VR, VOLUME	
VR202	EWHFNAF20G15	VR, BALANCE	
VR301	EWCSSAF20C15	VR, BASS	
VR302	EWCSSAF20C15	VR, TREBLE	
		COILS	
L1, L2	SLQX400-D	COIL	⚠
L151, 152	SLQW471-1P3	COIL	(EG)
L153, 154	SLQW471-1P3	COIL	(EG)
L155, 156	ELEPK470KA	COIL	(EG)
L251, 252	ELEPK470KA	COIL	
L253, 254	ELEPK470KA	COIL	(EG)

Ref. No.	Part No.	Part Name & Description	Remarks
		FUSE	
F2	XBA2C04TB0	FUSE (250V, T400mA)	⚠
		SWITCHES	
S1	ESB99714V	SW, POWER	⚠
S2	SSR187-1	SW, VOLTAGE ADJ.	<EB, GC, GL> ⚠
S101	SSH1235	SW, PHONO SELECTOR	
S201	ESA26132	SW, INPUT SELECTOR	
S202	ESA26134	SW, RECORDING SELECTOR	
S203	ESA26133	SW, TAPE3 MON/EXT	
S204	SSH1236	SW, MODE	
S205	SSH2125	SW, MUTING/LOUDNESS	
S207	SSH2135	SW, SUBSONIC FILTER/TONE	
		JACKS	
J4	SJT3213	CONNECTOR (2P)	
J7	SJT30543-V	CONNECTOR (5P)	
J8	SJT31043-V	CONNECTOR (10P)	
JK1	SJF3057-9A	TERMINAL BOARD	
JK2	SJF3062-8A	TERMINAL BOARD	
JK3	SJF3062-25A	TERMINAL BOARD	
JK4	SJSD16	AC INLET	(EB, GL) ⚠
		SHIELD PLATES	
E101, 102	SNE1004	EARTH TERMINAL	
E104	SNE1004	EARTH TERMINAL	
E105	SMC1220-1	SHIELD PLATE	
E106	SMC949	SHIELD PLATE	
		FUSE HOLDERS	
FC1, FC2	SJT390	FUSE HOLDER	
		RELAY	
RLY401	SFDYG5A237P	RELAY	
		POWER TRANSFORMER	
T1	SLT5L292-W	POWER TRANSFORMER	(E, EG) ⚠
T1	SLT5L293-W	POWER TRANSFORMER	(EB, GC, GL) ⚠

RESISTORS & CAPACITORS

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Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique

ECEA	50	M	330
Type	Voltage (50V)	Characteristics	Value (33μF)

- ● Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- ● Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type	Wattage		Tolerance
ERD : Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG : Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ : Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX : Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L : Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K : Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC : Solid	6G : 1/10W	8G : 1/8W	
ERF : Incombusible Box-Shaped			
ERM : Wire-Wound			
RRJ : Chip Resistor			
ERJ : Chip Resistor			

Capacitor Type	Voltage		Tolerance
ECE : Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD : Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD : Ceramic Capacitor	1H : 50V	1V : 35V	Z : $^{+80}_{-20}$ %
ECQM : Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP : Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG : Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N : Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU : Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX : Ceramic (Chip Type)			
ECF : Semiconductor			
EECW : Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R101, 102	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R103, 104	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R105, 106	ERDS2TJ220T	C. RESISTOR 1/4W 22	
R107～110	ERDAS3G272T	C. RESISTOR 1/4W 2.7K	
R111, 112	ERDS2TJ101T	C. RESISTOR 1/4W 100	(E, EB, GC, GL)
R111, 112	ERDS2TJ221T	C. RESISTOR 1/4W 220	(EG)
R113, 114	ERDAS3G272T	C. RESISTOR 1/4W 2.7K	
R115, 116	ERDS2TJ121T	C. RESISTOR 1/4W 120	
R117, 118	ERDS2TJ8R2T	C. RESISTOR 1/4W 8.2	
R119, 120	EROS2TKG6802	M. RESISTOR 1/4W 68K	
R121, 122	EROS2TKF5231	M. RESISTOR 1/4W 5.23K	
R123, 124	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R125, 126	ERDS2TJ121T	C. RESISTOR 1/4W 120	
R127, 128	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R129, 130	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R131, 132	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R133, 134	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R141, 142	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R151, 152	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	(EG)
R153, 154	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	(EG)
R201, 202	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R203, 204	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R205, 206	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R207, 208	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R209, 210	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R211, 212	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R213, 214	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R215	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R251, 252	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R253, 254	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R255, 256	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R257, 258	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R259, 260	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R261, 262	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R263, 264	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R267, 268	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R269, 270	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R271, 272	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R281, 282	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R301, 302	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R303, 304	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R305 310	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R311, 312	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R313, 314	ERDAS3G821T	C. RESISTOR 1/4W 820	
R315, 316	ERDAS3G472T	C. RESISTOR 1/4W 4.7K	
R317, 318	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R319, 320	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R321, 322	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R323, 324	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R325, 326	ERDS2TJ223T	C. RESISTOR 1/4W 22K	

Ref. No.	Part No.	Part Name & Description	Remarks
R327, 328	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R401, 402	ERDAS3G101T	C. RESISTOR 1/4W 100	
R403, 404	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R405, 406	ERDAS3G101T	C. RESISTOR 1/4W 100	
R407, 408	ERDAS3G331T	C. RESISTOR 1/4W 330	
R409, 410	ERDAS3G102T	C. RESISTOR 1/4W 1K	
R411, 412	ERDAS3G332T	C. RESISTOR 1/4W 3.3K	
R413, 414	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R501, 502	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R503	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R504	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R505, 506	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R511	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R512	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R513	ERDS2TJ333T	C. RESISTOR 1/4W 33K	⚠
R514	ERDS2TJ334T	C. RESISTOR 1/4W 330K	
R515	ERD25FJ471P	C. RESISTOR 1/4W 470	⚠
R516	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	⚠
R532	ERDS2TJ270T	C. RESISTOR 1/4W 27	
R533	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
		CAPACITORS	
C1	ECKWNS103ZVS	C. CAPACITOR 250V 0.01U	⚠
C101, 102	ECQM1H103KV3	P. CAPACITOR 50V 0.01U	(E, EB, GC, GL)
C101, 102	ECCT1H820K	C. CAPACITOR 50V 82P	(EG)
C103, 104	ECCT1H820K	C. CAPACITOR 50V 82P	(E, EB, GC, GL)
C103, 104	ECCT1H330K	C. CAPACITOR 50V 33P	(EG)
C105, 106	ECKT1H222MD	C. CAPACITOR 50V 2200P	
C107, 108	ECEA0JPX332E	E. CAPACITOR 6.3V 3300U	
C109, 110	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U	
C111, 112	ECQB1H103JZ3	P. CAPACITOR 50V 0.01U	
C113, 114	ECQM1H392KV3	P. CAPACITOR 50V 3900P	
C115, 116	ECEA1HBZ4R7B	E. CAPACITOR 50V 0.47	
C117, 118	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C119, 120	ECQM1H472KV3	P. CAPACITOR 50V 4700P	
C151, 152	ECCT1H100K	C. CAPACITOR 50V 10P	(EG)
C153, 154	RCBS1H181KBY	C. CAPACITOR 50V 180P	(EG)
C155, 156	ECCT1H330K	C. CAPACITOR 50V 33P	(EG)
C157	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	(EG)
C201, 202	ECQV1H823JZ3	P. CAPACITOR 50V 0.082U	
C203, 204	ECQV1H184JZ3	P. CAPACITOR 50V 0.18U	
C251, 252	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C253, 254	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C255, 256	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C257, 258	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C259, 260	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C261, 262	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C263, 264	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C267, 268	ECCT1H181K	C. CAPACITOR 50V 180P	
C269, 270	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C271, 272	RCBS1H221KBY	C. CAPACITOR 50V 220P	(EG)
C281, 282	ECCT1H181K	C. CAPACITOR 50V 180P	(EG)
C301, 302	ECCT1H330K	C. CAPACITOR 50V 33P	
C303, 304	ECCT1H820K	C. CAPACITOR 50V 82P	
C305, 306	ECKT1H222MD	C. CAPACITOR 50V 2200P	
C307, 308	ECEA1HBZ2R2B	E. CAPACITOR 50V 2.2U	
C309, 310	ECCT1H390K	C. CAPACITOR 50V 39P	
C311, 312	ECEA1CBZ470B	E. CAPACITOR 16V 47U	
C313, 314	ECQV1H823JZ3	P. CAPACITOR 50V 0.082U	
C315, 316	ECQB1H153JZ3	P. CAPACITOR 50V 0.015U	
C317, 318	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C319, 320	ECQB1H182JZ3	P. CAPACITOR 50V 1800P	
C321, 322	ECCT1H101K	C. CAPACITOR 50V 100P	
C401, 402	ECCT1H330K	C. CAPACITOR 50V 33P	
C403, 404	ECEA1CBZ470B	E. CAPACITOR 16V 47U	
C405, 406	ECEA1EU221B	E. CAPACITOR 25V 220U	
C407, 408	ECEA1CPX100B	E. CAPACITOR 16V 10U	
C409, 410	RCBS1H121KBY	C. CAPACITOR 50V 120P	(EG)
C501, 502	ECES1VV332RY	E. CAPACITOR 35V 3300U	⚠
C503, 504	ECEA1CK100B	E. CAPACITOR 16V 10U	
C505, 506	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C507, 508	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C511	ECEA1HK4R7B	E. CAPACITOR 50V 4.7U	
C512	ECEA1CU101B	E. CAPACITOR 16V 100U	
C519	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C520	ECKT1H102KB	C. CAPACITOR 50V 1000P	
C550	ECKW2H103PE	C. CAPACITOR 500V 0.01U	(E, EB, GC, GL) ⚠
C550	ECQE2104KS	P. CAPACITOR 250V 0.1U	(EG) ⚠

ORDER NO. AD8911291S0
A2

Service Manual

Supplement

Amplifier

SU-A40

Stereo Control Amplifier

Color

(K)... Black Type

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	
(E)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany/Italy.	
(GC)	Third Region.	
(GL)	Australia.	

Please file and use this supplement manual together with the service manual for Model No. SU-A40, Order No. AD8905152C1 (P, PC areas) or Order No. AD8904098C8 (Other areas).

Note:

- This supplement has been issued to correct an error in the "Replacement Parts List" on page 17 (P, PC areas) and "Replacement Parts List" on Page 16 (Other areas).

CORRECTION

REPLACEMENT PARTS LIST

(Page 17 of service manual.......... P, PC areas)
(Page 16 of service manual.......... Other areas)

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL →	NEW		
CABINET AND CHASSIS				
33	RWJ390580KQ	**RWJ3905080KQ**	FLAT CABLE	Correction

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